

CLAIMS:

1. An immunogenic composition comprising a combination of GAS antigens, said combination consisting of two to ten GAS antigens, wherein said combination includes GAS 40.
2. The composition of claim 1, wherein said combination of GAS antigens further includes one or
5 more GAS antigens selected from the group consisting of GAS 39, GAS 57, GAS 117, GAS 202, GAS 294, GAS 527, GAS 533, and GAS 511.
3. The composition of claim 1, wherein said combination of GAS antigens includes GAS 117.
4. The composition of claim 1, wherein said GAS 40 antigen comprises an amino acid sequence comprising a first coiled-coil region and a second coiled-coil region.
- 10 5. The composition of claim 1, wherein the GAS 40 antigen comprises an amino acid sequence comprising a first coiled-coil region.
6. The composition of claim 5, wherein said first coiled-coil region comprises an amino acid sequence comprising SEQ ID NO: 12.
7. The composition of claim 4, wherein the GAS 40 antigen comprises an amino acid sequence
15 comprising a second coiled-coil region.
8. The composition of claim 7, wherein said second coiled-coil region includes a leucine zipper region.
9. The composition of claim 7, wherein the second coiled-coil region comprises an amino acid sequence comprising SEQ ID NO: 13.
- 20 10. An immunogenic composition comprising a combination of GAS antigens, said combination consisting of two to thirty-one GAS antigens of a first antigen group, said first antigen group consisting of GAS 117, GAS 130, GAS 277, GAS 236, GAS 40, GAS 389, GAS 504, GAS 509, GAS 366, GAS 159, GAS 217, GAS 309, GAS 372, GAS 039, GAS 042, GAS 058, GAS 290, GAS 511, GAS 533, GAS 527, GAS 294, GAS 253, GAS 529, GAS 045, GAS 095, GAS 193, GAS 137, GAS 084, GAS
25 384, GAS 202, and GAS 057.
11. The immunogenic composition of claim 10, wherein said combination of GAS antigens is selected from the group consisting of GAS 39, GAS 40, GAS 57, GAS 117, GAS 202, GAS 294, GAS 527, GAS 533, and GAS 511.
12. The immunogenic composition of claim 10, wherein said combination of GAS antigens
30 includes GAS 40 and GAS 117.

13. The immunogenic composition of claim 10, wherein said combination includes GAS 40.
14. The immunogenic composition of claim 10, wherein said GAS 40 is selected from the amino acid sequence comprising (a) a first coiled-coil region, (b) a second coiled-coil region or (c) a first coiled-coil region and a second coiled-coil region.
- 5 15. A fusion construct comprising a combination of GAS antigens, said combination consisting of two to thirty-one GAS antigens of a first antigen group, said first antigen group consisting of GAS 117, GAS 130, GAS 277, GAS 236, GAS 40, GAS 389, GAS 504, GAS 509, GAS 366, GAS 159, GAS 217, GAS 309, GAS 372, GAS 039, GAS 042, GAS 058, GAS 290, GAS 511, GAS 533, GAS 527, GAS 294, GAS 253, GAS 529, GAS 045, GAS 095, GAS 193, GAS 137, GAS 084, GAS 384, GAS
10 202, and GAS 057.
16. The fusion construct of claim 15, wherein said combination includes GAS 40.
17. The fusion construct of claim 15, wherein said combination includes GAS 40 and GAS 117.
18. A composition comprising a combination of two or more antibodies selected from the group consisting of antibodies specific to antibodies comprising an antibody specific to GAS 40, GAS 117,
15 GAS 130, GAS 277, GAS 236, GAS 40, GAS 389, GAS 504, GAS 509, GAS 366, GAS 159, GAS 217, GAS 309, GAS 372, GAS 039, GAS 042, GAS 058, GAS 290, GAS 511, GAS 533, GAS 527, GAS 294, GAS 253, GAS 529, GAS 045, GAS 095, GAS 193, GAS 137, GAS 084, GAS 384, GAS 202, and GAS 057.
19. The composition of claim 18, wherein said combination includes an antibody specific to GAS 40.
- 20 20. The composition of claim 19, wherein said GAS 40 specific antibody is specific to the first or the second coiled-coil region of GAS 40.
21. A method for the therapeutic or prophylactic treatment of Streptococcus pyogenes infection in an animal susceptible to streptococcal infection comprising administering to said animal a therapeutic or prophylactic amount of any one of the immunogenic compositions of claims 1 to 20.
- 25 22. A method of manufacturing any one of the immunogenic compositions of claims 1 to 20.
23. A kit comprising a first component comprising any one of the immunogenic compositions of claims 1 to 20.
24. A composition comprising a GAS 40 antigen, wherein said antigen comprises an amino acid sequence comprising a first coiled-coil region or a second coiled-coil region.
- 30 25. The composition of claim 24, wherein said GAS 40 antigen comprises a first coiled-coil region comprising SEQ ID NO: 12.

26. The composition of claim 24, wherein said GAS 40 antigen comprises a second coiled-coil region comprising SEQ ID NO: 13.

27. An antibody specific to any one of the compositions of claims 24 to 26.